REMARKS

Claims 1-67 have been canceled. New Claims 68-116 have been added. Hence, Claims 68-116 are now active in this case.

REQUEST FOR RECONSIDERATION

Claims 1-48 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting over Claims 1 to 19 and 43 of copending application Serial No. 09/125,031, and Claims 1-14, 37 and 38 of copending Application Serial No. 09/125,032. However, Applicants respectfully urge that the Examiner hold this rejection in abeyance until the claims in one of these applications are allowed.

Enclosed is an Abstract on a separate sheet which satisfies the requirements of 37 C.F.R. §1.72(b).

Claims 1-6, 8-11, 32-36, 38 and 39 stand rejected under 35 U.S.C. §112, second paragraph. However, these claims have been canceled. Moreover, Applicants respectfully also submit that this rejection has been obviated in-part by amendment and is traversed in-part for the new claims of record.

Specifically, the new claims of record do not recite "the surface" twice, "the corresponding *Plasmodium",* "irreversibly induced," "reduced non irreversible state" "substantially free," "substantially specific," "essentially free", "a pure state," and "a high degree of purity," for example.

Applicants submit that the new claims of record have antecedent basis.

With respect to the terminology "reducing medium", which has been changed to "reducing agent" and "reduced form", Applicants submit that the Claims containing such

recitations are definite and satisfy 35 USC 112. One skilled in the art would clearly recognize this terminology as evidenced by Annex 1.

Therefore, in view of the above, withdrawal of this rejection is respectfully requested.

Attached herewith are certified English translations of PCT/FR97/00290 and FR96/01822. Thus, priority for the present application is now perfected under 35 U.S.C. §§120 and 119(b).

Claims 1-11, 15-23, 27 and 29-47 have been rejected under 35 U.S.C. §102(b) as being anticipated by Shi et al, as evidenced by Eagan et al. However, these claims have been canceled, and this ground of rejection is respectfully traversed for the new Claims of record.

Applicants submit that new Claims 68 and 93 benefit from the first priority date of February 14, 1996. Therefore, Claims 68 and 93 are not anticipated by Shi et al which was made available to the public in July 1996.

With respect to the other new claims of record that do not benefit from the first priority date, Applicants submit that these claims are also not anticipated by Shi et al since Shi et al fail to disclose the atomic coordinates in Annexes, I, II or III nor the NMR fingerprints as recited in Claims 70 and 95.

Furthermore, the construct that is recited in Claims 73 and 97 containing less than 50 amino acids of a C-terminal region of p33 is neither disclosed nor suggested in Shi et al.

Finally, the recombinant protein produced in Shi et al does not have the GPI anchor as evidenced by the enclosed paper of Kaslow et al at page 286, first column, second to last paragraph. submitted as Annex II.

Therefore, in view of the above, withdrawal of this rejection is respectfully requested.

Claims 1-11, 15-23, 25, 27 and 29-47 have been rejected under 35 U.S.C. §102(b) as being anticipated Egan et al. However, these claims have been canceled, and this ground of rejection is respectfully traversed for the newly added claims.

Egan et al describe the relationship between cellular and humoral immune responses to defined epitopes of the C-terminal MSP-1 protein of *Plasmodium falciparum.* in immune blood donors.

Egan et al describe that T-cell responses in reduced recombinant proteins and linear peptides were more prevalent than responses to disulfide-bonded proteins suggesting that the complex disulfide-bonded structure of native MSP-119 may inhibit antigen processing or presentation. More specifically, the following is stated at page 3025 of Egan et al prior to the heading Materials and Methods:

> In addition, we provide evidence that the structure of $MSP\text{-}1_{19}$ with its numerous disulfide bonds, may inhibit antigen processing or presentation **and that reduction of the antigen prior to presentation to T cells can, at least *in vitro,* significantly enhance its recognition** [Emphasis added].

This is the exact opposite teaching of the present invention wherein said recombinant 19 C-terminal fragment of MSP-1 is unstable in a reducing medium. Hence, Egan et al actually teach away from the present invention.

Furthermore, Egan et al was made available to the public in August 1997. Therefore, Egan et al is considered prior art only to those claims which were disclosed in this application filed on August 8, 1998; i.e., Claims 70 and 95. Egan et al do not disclose the atomic coordinates in Annexes I, II or III, nor does this reference disclose the NMR fingerprints as presently recited in the claims.

Therefore, the presently claimed invention is not anticipated by Egan et al.

Withdrawal of this rejection is respectfully requested.

Claims 1-11, 15-23, and 28-46 have been rejected under 35 U.S.C. §102(a)(b) as being anticipated by Holm et al. However, these claims have been canceled, and this ground of rejection is traversed as to the newly added claims.

As to the 35 U.S.C. §102(a) rejection, enclosed herewith is a Declaration indicating that Inge Holm, one of the authors of Holm et al, merely carried out assignments under the supervision of one or all of the inventors. Therefore, the rejection under 35 U.S.C. §102(a) is believed to be moot.

As to the rejection under 35 U.S.C. §102(b), Applicants submit that this reference was made available to the public sometime after its acceptance date of August 4, 1997. Therefore, this reference is prior art only with respect to those claims filed in this application on August 14, 1998; i.e., Claims 70 and 95.

Holm et al fails to disclose the atomic coordinates in Annexes I, II or III. Nor does this reference disclose the recited NMR fingerprints.

Therefore, the claims of the present invention are not anticipated by Holm et al. Withdrawal of this rejection is respectfully requested.

Claims 1-26, 29-46 and 48 have been rejected under 35 U.S.C. §102(b) as being anticipated by Longacre et al. These claims have been canceled. As far as this rejection may pertain to the new claims of record, it is respectfully traversed.

Longacre et al disclose the production of recombinant proteins derived from *Plasmodium vivax* merozoite surface protein 1 in a baculovirus expression system.

The claims and more particularly independent Claims 68 and 95 now recite that the polypeptide sequence is of a *Plasmodium* parasite that is infectious in man other than *Plasmodium vivax.*

The Examiner, in rendering this rejection, purports that Longacre et al anticipates the claims since this reference discloses "a portion of that fragment and that of a peptide of claim 1 which are capable of inducing an immune response." The new independent claims of record, Claims 68 and 93 now exclude those fragments from *Plasmodium vivax* which induce an immune response and which can inhibit parasitemia *in vivo*.

The remaining claims are dependent from either Claim 68 or Claim 93. Therefore, Applicants submit that the new claims of record are not anticipated by Longacre et al.

In view of the above, withdrawal of this rejection is respectfully requested.

Claims 1-48 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting over Claims 1-19 and 43 of copending application Serial No. 09/125,031 and Claims 1-4, 37 and 38 of copending Application Serial No. 09/125,032. However, Applicants respectfully urge that the Examiner hold this rejection in abeyance until the claims in one of these applications are allowed.

Claims 1-48 have been provisionally rejected under 35 U.S.C. §103(a) as being unpatentable over Claims 1-19 and 43 of copending application Serial No. 09/125,031 and Claims 1-14, 37 and 38 of copending Application Serial No. 09/125,032. In rendering this rejection, the Examiner purports that the '031 and '032 applications have different assignees. Both of these applications are assigned to Institut Pasteur and New York University and therefore are not "by another" which is believed to render this rejection moot.

Accordingly, in view of all of the above, it is believed that the present application now stands in condition for allowance. Early notice to this effect is earnestly solicited.

Respectfully submitted,

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